UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590
Central Regional Laboratory (SL-10C)

October 9, 1992

REPLY TO THE ATTENTION OF

David Webb
Illinois Dept. of Public Health
22 Kettle River Drive
Edwardsville, IL 62025

Dear Mr. Webb:

Pursuant to your telephone request (approx. 10 days ago):

1. I have requested Sample Management Office / Viar to send you a copy of CLP Statement of Work (SOW) ILM01 and ILM02. ILM01 was referenced in Special Analytical Services (SAS) requests for ATSDR study. ILM02 is current CLP SOW for Inorganics.

2. I have attached copies of our SAS's used for Cd & Pb in Soil and in Drinking Water. One change was made in the Soil SAS was that ~~to~~ lab duplicates of soil were to be taken as separate aliquots ~~from~~ a ~~sample~~ ~~jar~~ bottle.

3. I have attached a copy of each SAS used for Cd & Pb in dust. These are attached to a April 7, 1992 Transmittal memo with a flow chart explaining simple prep of dust. During ~~the~~ ICP analysis of dust, one of 2 labs found internal standard techniques to be necessary for the dust digests for ICP.

~~If~~ I understand you are requesting copies of these analytical procedures so that you might use them for comparability purposes) if you decide to make additional measurements in the future. My phone number is (312) 886-1970 but will change soon in the future.

Sincerely yours,
David Rayne
Chemist

c.c. B. Bradley, WMD
L. Fabinski, ATSDR

WM 1-4-2

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77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

MEMORANDUM **SL-10C**

DATE: April 7, 1992

SUBJECT: Analysis Procedures for Cadmium and Lead in Dust at Granite City, IL

FROM: David A. Payne, Chief
Laboratory Scientific Support Section
Central Regional Laboratory

TO: Brad Bradley, Environmental Engineer
IL/IN Remedial Response Branch
Office of Superfund

This memorandum documents final test procedures used by the Central Regional Laboratory for measuring cadmium and lead in household dust from Granite City, IL. The analytical methodology was used for 59 dust sample analysis at the CRL and replaces test procedures documented to our QA Section on November 8, 1991. The test procedures are incorporated into the Special Analytical Services request forms currently being used for CLP testing of 350 household dusts. Attached are:

1. SAS for Cd & Pb in Dust by ICP Emission Spectroscopy
2. SAS for Cd & Pb in Dust by GFAA when needed due to small sample aliquot weights

We have provided a Flow-Chart to describe "Dust Sample Preparation" which is incorporated in a modified CLP Form I for reporting cadmium (Cd) and lead (Pb) results.

On the attached modified Form I

1. The total sample weight is recorded - See item (1). This can be used in conjunction with areas measured and vacuumed by Ecology & Environment

2. Weight of extraneous material is recorded - See item 2). This is "odd" material like pennies, plastic items, crayons, cigarette butts, etc.

3. Weight of remaining dust is recorded - See item (3). This includes fibers (carpet strands, lint, hair balls from humans, cats, or dogs) and dust. Item (3) does not include the weight of paint chips.

4. Suspect or probable paint chips are separated from "remaining dust," or dust, and the paint chips weights are recorded if greater than 5-10 mg - See item (4).

5. Under "Sample Description," on Form I, the description of any paint chips is recorded. A visual estimate as to the relative quantity of fibers and dust is also recorded. Example - a sample may be 100% dust with no lint. Another sample may be 90% lint (hair balls or shag carpet fibers) and 10% dust. See item (5) on Flow-Chart. The percentages of lint and dust are visual volume estimates. If 70-90% lint percentages are recorded, the dust - item (3) - will still contain most of the sample's weight, as hair balls occupy large volume per unit weight.

6. It is important to note that "remaining dust" or dust sample without paint chips is homogenized with SPEX 8000 Mixer, or equivalent. Dust is mechanically shaken from fibers/lint and rehomogenized if necessary. Analysis aliquots for Cd & Pb are selected from dust shaken from fibers/lint. Weight of dust sample [item (3)] contains the fiber/lint content. Most samples have contained significant amounts of fibers/lint.

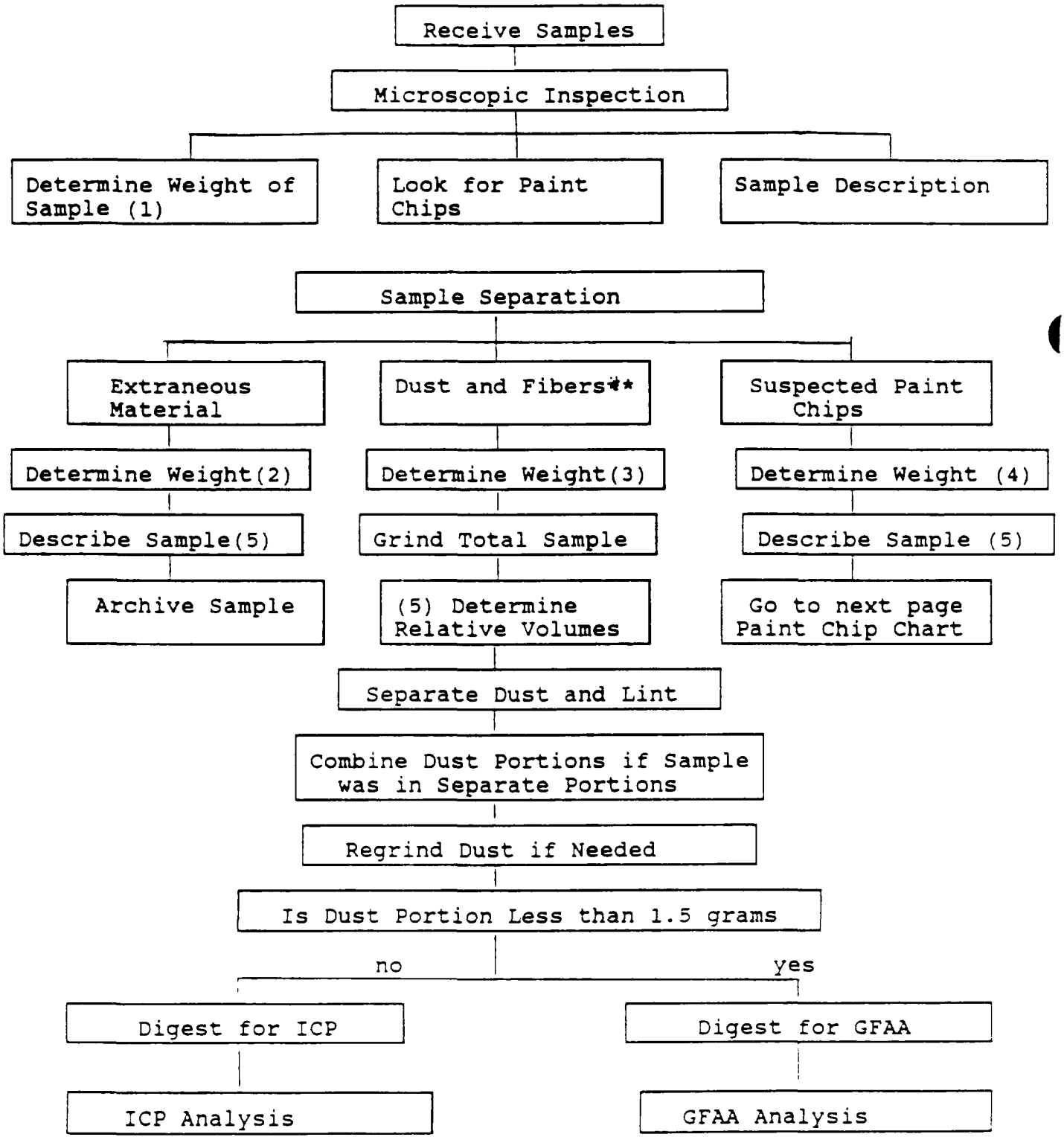
7. A Flow-Chart is provided for analysis of suspected paint chips.

8. Cd and Pb results are reported for dust and any suspected or probable paint chips. Mathematical composite (by weight) values for Cd and Pb in dust are also provided on Form I.

The December 1991/January 1992 analysis of dust at our laboratory found most samples to be a mixture of fibers/lint and dust. The two parts could not be completely separated, so we shook out as much dust from the fibers as possible for analysis aliquot homogenization and selection; however sample weights - items (1) and (3) - still contain the fibers. The fibers themselves can not readily be analyzed for Cd & Pb.

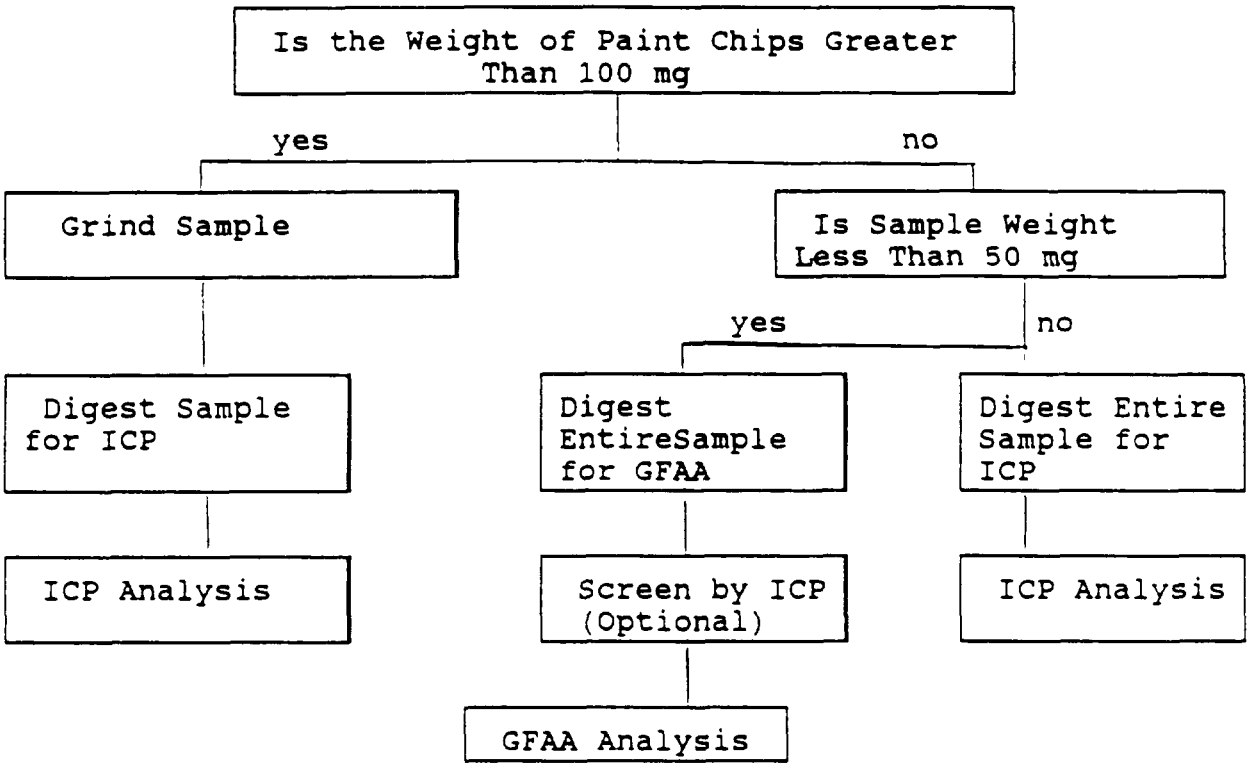
Under "Sample Description" - item (5), the relative volumes of fibers and dust are visually estimated as % lint and % dust. The sum of two estimates are 100%.

EPA REGION 5
DUST SAMPLE PREPARATION FLOW CHART



** Fibers may consist of carpet strands, clothing lint, or hair. Hairballs may be present which contain trapped dust and other fibers. These are to be homogenized along with the "free" dust. Fibers that are not trapped with dust may be separated and placed in the extraneous materials aliquot.

EPA REGION 5
SUSPECTED PAINT CHIP FLOW CHART



U.S. EPA - CLP

1

EPA Sample No.

Lab Name:_____ Contract:_____ _____

Lab Code:_____ Case No:_____ SAS No:_____ SDG No:_____

Total Sample Weight (g):_____*(1) Lab Sample ID:_____

Weight of Dust (g):_____ *(3) Date Received:_____

Weight of Extraneous Material (g):_____ *(2)

Weight of Paint Chips (g):_____*(4) % Solids: As Received

Concentration Units: mg/kg

	Cadmium	Q	Lead	Q
Dust				
Paint Chips				
Composite Result				

Sample Description *(5) : _____

_____

_____

_____

_____

_____

Comments:_____

_____

_____

_____

_____

_____

*(1),(2),(3),(4),(5) refer to corresponding items on the Dust Sample Preparation Flow Chart.